

**Structural Improvement of Multimedia Video/Audio Playing  
Device**

[FIELD OF THE INVENTION]

5 The present invention relates to a structural improvement of multimedia video/audio playing device, and more particularly, a structural improvement of multimedia video/audio playing device capable of being associated with a portable multimedia player by placing the portable multimedia player into the  
10 docking recess and fixing the portable multimedia player with a fastening structure to make an electrical connection so that the images and sounds of the portable multimedia player can be outputted from the display screen and the speaker to increase the image display effects and sound qualities. The  
15 structural improvement of multimedia video/audio playing device of the present invention can apply to various portable multimedia players.

[BACKGROUND TO THE INVENTION]

20 With the advancement in electronic technologies, not only the size of a video/audio player is reduced so as to be portable, but also the sound or image quality is continuously increased to have gradually satisfied people's demand for high quality images and sounds.

Presently, the common video/audio player includes home VCD and DVD players, portable CD walkman, cassette walkman, iPod, radio... etc. Even a desktop computer or a laptop computer can be also used to play audio and video, in which the audio format  
5 conventionally uses a wav format and recently has gradually been replaced with an mp3 format because the mp3 format has advantages of high compressibility and small file sizes. Also, with the increase in data storage capacity and reduction in size, the portable multimedia player (PMP) has been gradually  
10 popularized.

Although the portable multimedia player has small size and can be easily carried, yet the display screen thereof is relatively small. Obviously, it will be very tiring for aged  
15 people or people who have poor eyesight to read the text or image on such a small screen. In addition, the sound is outputted from an earphone; although the output power is small and the sound volume is restricted, yet the hearing may be damaged by long-termly listening to music via an earphone.

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Therefore, based on the inventor's many-year experience of designing and manufacturing with continuous thinking, manufacturing and correction, the present invention is thus born to solve the above-mentioned problems.

[SUMMARY OF THE INVENTION]

The main object of the present invention is to provide a structural improvement of multimedia video/audio playing device, on which a portable multimedia player can be placed  
5 so that the sounds and images from the portable multimedia player can be played and displayed to provide the user with better video and audio enjoyment.

In order to achieve the above object, the multimedia  
10 video/audio playing device of the present invention comprises a cover and a main body. The cover comprises a display screen for displaying texts, images or patterns. The main body has one side pivotally connected with the cover, and comprises a docking recess, a fastening structure, a speaker and a sound  
15 volume tuner. The docking recess is used for placing a portable multimedia player therein, and the size of the docking recess can be fitted to the portable multimedia player. The fastening structure can move forwards and backwards, and the portable multimedia player can be fastened by pushing the  
20 fastening structure forwards after being placed into the docking recess. The sound volume tuner is used for controlling the outputted sound volume.

With the above structure, the portable multimedia player is  
25 placed into the docking recess and is fastened by the fastening

structure to make an electrical connection, so that the signals of the portable multimedia player can be transmitted to the main body to play sounds via the speaker and display images on the display screen, which provides the user with  
5 a better image quality and audio enjoyment.

[BRIEF DESCRIPTION OF THE DRAWINGS]

Fig. 1 is an exploded perspective view of the present invention.

10 Fig. 2 is a schematic combination view of the present invention.

Fig. 3 is a schematic combination view of the present invention, in which a sheath is further provided for a small-size portable multimedia player.

15 Fig. 4 is a schematic combination view of the present invention shown in another angle of view.

Fig. 5 is a partially-enlarged front view of the fastening structure according to the present invention.

Fig. 6 is a partially-enlarged side view of the fastening  
20 structure according to the present invention, in which the pusher is being actuated.

[DESCRIPTION OF PREFERRED EMBODIMENTS]

In order to completely and clearly disclose the technical  
25 contents, objects and achievable effects of the present

invention, a detailed description is hereby made below with reference to the drawings and the numeral references.

Referring to Figs. 1 to 6, an embodiment of the structural improvement of multimedia video/audio playing device of the present invention is showed. The multimedia video/audio playing device (1) comprises a cover (2) and a main body (3). The cover (2) comprises a display screen (21) for displaying texts, images or patterns. The main body (3) has one side pivotally connected with the cover (2), and comprises a docking recess (31), a speaker (32), a sound volume tuner (33) and a fastening structure (4). The docking recess (31) has a size and shape adapted to a portable multimedia player (5) to be placed therein. The portable multimedia player (5) can be an iPod, a mobile phone, a PDA or other digital video/audio equipments. The fastening structure (4) is movably provided in the main body (3). The portable multimedia player (5) can be fastened by pushing the fastening structure (4) forwards after being placed into the docking recess (31). The sound volume tuner (33) is used for controlling the outputted sound volume, and particularly, two buttons are provided on the main body (3) as the sound volume tuner (33) for adjusting the increase and decrease of the sound volume. Therefore, the image data or the sounds stored in the portable multimedia player (5) can be played from the display screen (21) and the

speaker (32), respectively. As a larger screen and a better sound quality are provided, the portable multimedia player (5) will have excellent performance in color images, animated pictures, videos, music or sounds.

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The power source for the present invention can be a built-in battery or an external power supply. Especially, the main body (3) includes a power hole (34) and a power switch (35) as the power connection and on/off. In order to apply to a small-size portable multimedia player (5), the present invention further comprises a sheath (11), which has an outer frame (111) and an inner frame (112). The inner frame (112) defines a receiving space and has a gap (113) at one side for corresponding to the fastening structure (4). The outer frame (111) has a size adapted to be inserted into the docking recess (31), and the receiving space of the inner frame (112) is adapted to have a portable multimedia player (5) having a smaller size than that of the docking recess (31) such as, for example, iPod nano inserted therein.

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In the present invention, the fastening structure (4) comprises a pusher (41) and a fixer (42). The main body (3) is provided with a recession (36) having an opening (361) and a step portion (362) surrounding the opening (361). The pusher (41) has a pair of L-shaped fasteners (411) facing

opposite directions provided on the bottom side, and has a connector (412) provided on the front side for being inserted into the portable multimedia player (5) to transmit data. The fixer (42) is formed into U shape and is fixed at the bottom of the recession (36). The pusher (41) leans against the step portion (362) of the recession (36) so that the fasteners (411) pass through the opening (361) to clasp the fixer (42) and thus the pusher (41) can move forwards and backwards along the inner edge of the fixer (42). When the connector (412) of the pusher (41) is inserted into one end of the portable multimedia player (5), the signals from the portable multimedia player (5) can be transmitted to the interior of the main body (3) for processing. However, the fastening structure (4) for fixing the portable multimedia player (5) can be altered, modified or varied by the persons skilled in the art, and is not limited to this embodiment.

In addition to the signals of the portable multimedia player (5), the main body (3) further comprises a signal input/output hole (37), a data transmitting hole (38) and a signal switch (39). The signal input/output hole (37) is used for inserting the plug of an S terminal or an AV terminal. The data transmitting hole (38) is used for inserting a USB plug or a plug for other kinds of signals so that a personal computer or a thumb drive can be connected to interchange data with

the portable multimedia player (5). The source signals of the display screen (21) and sounds can be changed by operating the signal switch (39); for example, the video/audio signals can be from the portable multimedia player (5) or from the  
5 signal input/output hole (37).

With the above-mentioned structure, the portable multimedia player (5) is placed into the docking recess (31) and is fastened by the fastening structure (4) to make an electrical  
10 connection, so that the signals of the portable multimedia player (5) can be transmitted to the main body (3) to play sounds via the speaker (32) and play images on the display screen (21). Also, when the cover (2) is folded to cover the main body (3), the multimedia video/audio playing device of  
15 the present invention can be easily carried without scraping the display screen (21).

The above-mentioned embodiments or drawings are not intended to restrict the structure or size of the present invention.  
20 Any moderate alteration or modification made by the persons having ordinary knowledge in the art should be considered not departing from the scope of the present invention.

As can be known from the above, the present invention has the  
25 following advantages:



1. The present invention has a larger display screen so that the user who has poor eyesight can easily read therefrom and the action and facial expression are clearer when animated pictures or videos are played. Also, the sound output of the speaker can provide better stereo sounds, enabling music, voice or conversation to be clearer and avoiding the problem of hearing damage caused by long-termly wearing an earphone.

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2. The foldable design of the cover and main body of the present invention can not only be easily carried but also prevent the screen from scraping and dust contamination.

15 As stated above, the embodiment of the present invention can actually achieve an expected effect of use, and the concrete structure as disclosed has not been found in similar products nor open to the public before filing an application. Therefore, the present invention completely meets the provisions and requirements of the Patent Act, and a utility model patent application is thus filed per the law. It is respectfully solicited that your Office after examination will grant the patent.

1 multimedia video/audio playing device  
11 sheath  
111 outer frame  
112 inner frame  
5 113 gap  
2 cover  
21 display screen  
3 main body  
31 docking recess  
10 32 speaker  
33 sound volume tuner  
34 power hole  
35 power switch  
36 recession  
15 361 opening  
362 step portion  
37 signal input/output hole  
38 data transmitting hole  
39 signal switch  
20 4 fastening structure  
41 pusher  
411 fastener  
412 connector  
42 fixer  
25 5 portable multimedia player

What is claimed is:

1. A structural improvement of multimedia video/audio playing device, said multimedia video/audio playing device  
5 comprising:

a cover comprising a display screen for displaying texts, images or patterns; and

a main body having one side pivotally connected with the cover and comprising a docking recess for placing a  
10 portable multimedia player therein, a fastening structure capable of moving forwards and backwards and fastening the portable multimedia player, a speaker, and a sound volume tuner for controlling the outputted sound volume;

with the above structure, the portable multimedia  
15 player being placed into the docking recess and fastened by the fastening structure to make an electrical connection, so that the signals of the portable multimedia player can be transmitted to the main body to play sounds via the speaker and display images on the display screen.

20

2. The structural improvement of multimedia video/audio playing device according to claim 1, further comprising a sheath, which has an outer frame and an inner frame; the inner frame defining a receiving space and having a gap at one side  
25 for corresponding to the fastening structure; the outer frame

having a size adapted to be inserted into the docking recess,  
and the receiving space of the inner frame being adapted to  
have a smaller portable multimedia player inserted therein.

5        3. The structural improvement of multimedia video/audio  
playing device according to claim 1, wherein the fastening  
structure comprises a pusher and a fixer; the main body is  
provided with a recession having an opening and a step portion  
surrounding the opening; the pusher has a pair of L-shaped  
10 fasteners facing opposite directions provided on the bottom  
side, and has a connector provided on the front side for being  
inserted into the portable multimedia player to transmit data;  
the fixer is formed into U shape and is fixed at the bottom  
of the recession; the pusher leans against the step portion  
15 of the recession so that the fasteners pass through the opening  
to clasp the fixer and thus the pusher can move forwards and  
backwards along the inner edge of the fixer.

4. The structural improvement of multimedia video/audio  
20 playing device according to claim 1, wherein the main body  
further comprises a signal input/output hole, a power hole,  
a signal switch and a power switch, and the display screen  
and the sound source can be changed by operating the signal  
switch.

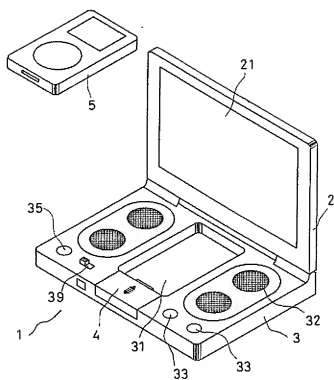
5. The structural improvement of multimedia video/audio playing device according to claim 1, wherein the main body further comprises a data transmitting hole for connecting with a personal computer or a thumb drive through a USB plug to  
5 interchange data with the portable multimedia player.

6. The structural improvement of multimedia video/audio playing device according to claim 1, wherein the portable multimedia player is an iPod, a mobile phone, or a PDA.

# **Abstract**

The present invention relates to a structural improvement of multimedia video/audio playing device, comprising a cover comprising a display screen for displaying texts, images or patterns, and a main body having one side pivotally connected with the cover and comprising a docking recess for placing a portable multimedia player therein, a fastening structure capable of moving forwards and backwards and fastening the portable multimedia player placed in the docking recess by pushing the fastening structure forwards, a speaker, and a sound volume tuner for controlling the outputted sound volume. With such a structure, the portable multimedia player is placed into the docking recess and fastened by the fastening structure to make an electrical connection, so that the signals of the portable multimedia player can be transmitted to the main body to play sounds via the speaker and display images on the display screen, which facilitates the user's enjoyment and reading the display screen, and provides better sound and image qualities.

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**Fig. 1**

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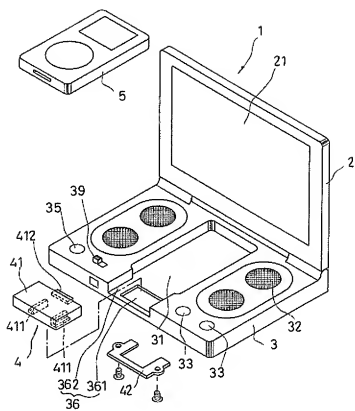
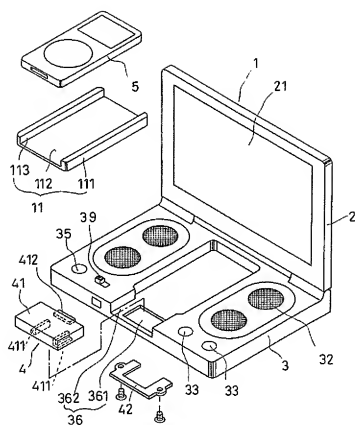


Fig. 2



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**Fig. 3**

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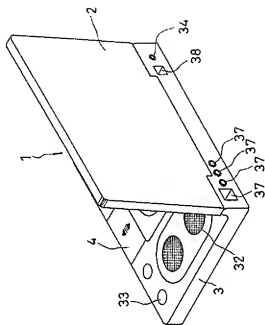


Fig. 4

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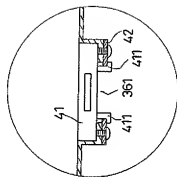


Fig. 5

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FIG. 6

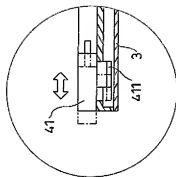


Fig. 6